

[illegible]

```
***** ** ** ** ** ** ** ** ** ***** ** ***** **
SEQ ID NO: 17 GPDGKHRMIMGTKRGNTGMVLVYTTDYTNELLDEPLHSPNTDMWECVDFYPVSLTND
SEQ ID NO: 2 GPDGKHRMIMGSKRNKTGLVLVYHTTDFNYVMSDEPLHSPNTDMWECVDFYPVSLTND
SEQ ID NO: 4 GPDGKHRMIMGTKRGNTGMILVYHTTDTYNYEMLNEPMHSPNTDMWECVDFYPVSLTND
SEQ ID NO: 6 GPDGKHRMIMGSKRGNTGMILVYHTTDTYTNELLDEPLHSPNTDMWECVDFYPVSLTND
241
***** ** ** ** ** ** ***** ** ***** **
SEQ ID NO: 17 SALDMAAAYGSGIKHVIKESWEGHGMWYSIGTYDAINDKWTDPNPELDVIGLRCDYGRF
SEQ ID NO: 2 SALDMAAAYGSGIKHVIKESWEGHGMWYSIGTYDASTDKWTPDNPKLDVIGLRCDYGRF
SEQ ID NO: 4 SALDIAAYGSGIKHVIKESWEGYGMDFYSIGTYDAFNDKWTPDNPELDVIGLRCDYGRF
SEQ ID NO: 6 SALDMAAAYGSGIKHVIKESWEGHGMWYSIGTYDAINDKWTDPNPELDVIGLRCDYGRF
301
***** ** ** **~**~***** ** ***** ** ***** **
SEQ ID NO: 17 FASKSLYDPLKKRRITWGYVGESDSADQDLSRGWATVYNVGRTIVLDRKTGTHLLHWPVE
SEQ ID NO: 2 FASKSLFDPLKKRRVTWGYVGESDKPDQDLSRGWATIYNVARTVVLDRKTGTHLLHWPVE
SEQ ID NO: 4 FASKSIFDPVKRRITWAYVGESDNADDDLSRGWATIYNVGRITVLDKRTGTHLLHWPVE
SEQ ID NO: 6 FASKSLYDPLKKRRVTWAYVGESDSVDQDLSRGWATVYNVGRTIVLDRKTGTHLLHWPVE
361
***** ** ** **~**~***** ** ***** ** ***** **
SEQ ID NO: 17 EVESLRYNGQEFKEIKLEPGSIIPLDIGTATQLDIVATFEVDQAALNATSETDDIYGCTT
SEQ ID NO: 2 EIESLRSNGQEFNEIELKPGSIIPLDIGSATQLDIVATFEVDQDALKAISETNEEYICTK
SEQ ID NO: 4 EIESLRYNGQEFKEIKLEPGSIAPLDIGTATQLDIVATFKVDEAALNATSETDDNFACIT
SEQ ID NO: 6 EVESLRYNGQEFKEIELEPGSIIPLDIGTATQLDIVATFEVDQAALNATSETDDIYGCTT
421
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FIG. 1B

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* * * * *
SEQ ID NO: 17  SLGAAQRGSLGPFGLAVLADGTLSELTVPVYFYIAKKADGGVSTHFCTDKLRSSLDYDGER  *
SEQ ID NO: 2   SWGAAGRGSLGPFGLAVLADGTLSELTVPVYFYIAKNTDGSVATHFCTDKLRSSLDYDRER  *
SEQ ID NO: 4   SSGAVERGSLGPFGLAVIADGTLSELTVPVYFYIAKKADGGVSTHFCTDKLRSSLDYDGER  *
SEQ ID NO: 6   SLGAAQRGSLGPFGLAVLADGTLSELTVPVYFYIAKKADGGLSTHFCTDKLRSSLDYDGGQR  *
481
* * * * *
SEQ ID NO: 17  VVYGGTVPVLDDEELTMRLLDVDSIVEGFAQGGRTVITSRAYPTKAIYEQAQLFLFNAT  *
SEQ ID NO: 2   VVYGSTVPVLDGEELTMRLLDVDSVVEGFAQGGRTVITSRVYPTKAIYDNAKVFLFNAT  *
SEQ ID NO: 4   VVYGSTVPVLDDEELTMRLLDVDSVVEAFAQGGRIAITSRVYPTKAIYEGAKLFLFNAT  *
SEQ ID NO: 6   VVYGSTVPVLDDEELTMRLLDVDSIVEGFAQGGRTVITSRVYPTKAIYEQAQLFLFNAT  *
541
* * * * *
SEQ ID NO: 17  GTSVKASLKIWMASAPIHQYPF-  *
SEQ ID NO: 2   GTSVKASLKIWMASAPIHQYPL-  *
SEQ ID NO: 4   DTSVKASLKIWMASAPIHQYEFN  *
SEQ ID NO: 6   GTSVKASLKIWMASAPIHQYSF-  *
601
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FIG. 1C

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FIG. 2A

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* *                               ***
SEQ ID NO:21  MGSHGKPLPYAYKPLPSDAADGKRTGCMRWSACATVLTASAMAVVVGATLLAGLRMEQ
SEQ ID NO: 8  -----
SEQ ID NO:10  -----
SEQ ID NO:12  -----
SEQ ID NO:20  MASESSRR-----GDSTSTRR-----RSCQEPLAVLSAKNQSSSEERAGGGLRV--
1                                                    60

*****
AVDEEAAAAGGFPWSNEMLQWQSGYHFQTAKNYMSDPNGLMYRGRWYHMFYQYNPVGTDW
SEQ ID NO:21  -----
SEQ ID NO: 8  -----
SEQ ID NO:10  -----
SEQ ID NO:12  -----
SEQ ID NO:20  --DEEAAAG-FPWSNEMLQWQSGYHFQTAKNYMSDPNGLMYNNGWYHMFYQYNPVGTDW
61                                                    120

*****
DDGMEWGHAVSRNLVQWRTLPIAMVADQWYDILGVLSGSMTVLPNGTVIMIYTGATNASA
SEQ ID NO:21  ---TRWGHAVSRNLVQWRTLPIAMVADQWYDILGVLSGSMTVLPNGTVIMIYTGATNASA
SEQ ID NO: 8  -----ARD-----DILGVLSGSMTVLPNGTVIMIYTGATNASA
SEQ ID NO:10  -----
SEQ ID NO:12  -----
SEQ ID NO:20  DDGMEWGHAVSRNLVQWRTLPIAMVADQWYDILGVLSGSMTVLPNGTVIMIYTGATNASA
121                                                    180

*****
VEVQCIATPADPNPDLRRWTKHPANPVIWSPPGVGTGKDFRDPMTAWYDESDDTWRTLGG
SEQ ID NO:21  I EVQCIATPADPNPDLRRWTKHPANPVIWSPPGIGTKDFRDPMTAWYDESDDTWRTLGG
SEQ ID NO: 8  I EVQCIATPADPNPDLRRWTKHPANPVIWSPPGIGTKDFRDPMTAWYDESDDTWRTLGG
SEQ ID NO:10  VEVQCIATPADPNPDLRRWTKHPANPVIWSPPGIGTKDFRDPMTAWYDESDDTWRTLGG
SEQ ID NO:12  -----
SEQ ID NO:20  VEVQCIATPADPNPDLRRWTKHPANPVIWSPPGIGTKDFRDPMTAWYDESDDTWRTLGG
181                                                    240

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FIG. 2A

SEQ ID NO: 21 SKDDHGDGHHGDIAMMYKTKDFLNYELIPGILHRVVRTGEWECIDFYPVGRSSDNDSSSEML  
 SEQ ID NO: 8 SKDDQDGHHDGDIAMMYKTKDFLNYELIPGILHRVERTGEWECIDFYPVGRSSDNDSSSEML  
 SEQ ID NO: 10 SKDDHGDGHHGDIAMMYKTKDFLNYELIPGILHRVQRTGEWECIDFYPVGHRSNDNDSSSEML  
 SEQ ID NO: 12 -----  
 SEQ ID NO: 20 SKDDHGDGHHGDIAMMYKTKDFLNYELIPGILHRVQRTGEWECIDFYPVGHRSNDNDSSSEML  
 241 300

SEQ ID NO: 21 HVLKASMDDERHDYYSLSGTYSAAANTWTPIDPELDLIGLRYDWGKFYASTSFYDPAKNR  
 SEQ ID NO: 8 HVLKASMDDERHDYYSLSGTYSAAANTWTPIDPELDLIGLRYDWGKFYASTSFYDPAKNR  
 SEQ ID NO: 10 HVLKASMDDERHDYYSLSGTYSAAANTWTPIDPELDLIGLRYDWGKFYASTSFYDPAKNR  
 SEQ ID NO: 12 -----  
 SEQ ID NO: 20 HVLKASMDDERHDYYSLSGTYSAAANTWTPIDPELDLIGLRYDWGKFYASTSFYDPAKNR  
 301 360

SEQ ID NO: 21 RVLMGYVGEVDSKRADVVKGWASIQSVPRTVLDEKTRTNLLWPVEEIEIETLRINATELT  
 SEQ ID NO: 8 RVLMGYVGEVDSKRADVVKGWASIQSVPRTVLDEKTRTNLLWPVEEIEIETLRINATELS  
 SEQ ID NO: 10 RVLMGYVGEVDSKRADVVKGWASIQSVPRTVLDEKTRTNLLWPVEEIEIETLRINATELS  
 SEQ ID NO: 12 -----  
 SEQ ID NO: 20 RVLMGYVGEVDSKRADVVKGWASIQSVPRTVLDEKTRTNLLWPVEEIEIETLRINATELS  
 361 420

SEQ ID NO: 21 DVTINTGSGVIHIPLRQGTQLDIEASFHLDASAVAALNEADVGYNCSSSSGGAVNRGALGPF  
 SEQ ID NO: 8 DVTMTGSGVIHIPLRQGTQLDIEATFHLDASAVAALNEADVGYNCSSSSGGAVNRGALGPF  
 SEQ ID NO: 10 DVTINTGSGVIHIPLRQGTQLDIEATFHLDASAVAALNEADVGYNCSSSSGGAVNRGALGPF  
 SEQ ID NO: 12 -----  
 SEQ ID NO: 20 DVTINTGSGVIHIPLRQGTQLDIEATFHLDASAVAALNEADVGYNCSSSSGGAVNRGALGPF  
 421 480

FIG. 2B

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FIG. 2C

```
*****
SEQ ID NO:21  GLLVLAAGDRRGEQTAVFYVSRGLDGGLHTSFCQDELSSRAKDVTKRVIGSTVPVLDG
SEQ ID NO: 8  GLLVLAAGDRRGEQTAVFYVSRGLDGGLHTSFCQDELSSRAKDVTKRVIGSTVPVLDG
SEQ ID NO:10  GLLVLAAGDRRGEQTAVFYVSRGLDGGLHTSFCQDELSSRAKDVTKRVIGSTVPVLDG
SEQ ID NO:12  -----
SEQ ID NO:20  GLLVLAAGDRRGEQTAVFYVSRGLDGGLHTSFCQDELSSRAKDVTKRVIGSTVPVLDG
                                         540

*****
SEQ ID NO:21  EALSMRVLVDHSIVQGFDMGGRTTMTSRVYPMEAYQEAKVYLFNNATGASVTAERLNVVHE
SEQ ID NO: 8  EAFSMRVLVDHSIVQGFAMGGRTTMTSRVYPMEAYQEAKVYLFNNATGASVMAERLNVVHE
SEQ ID NO:10  EAFSMRVLVDHSIVQGFAMGGRTTMTSRVYPMEAYQEAKVYLFNNATGASVMAERLNVVHE
SEQ ID NO:12  -----ARATMTSRVYPMEAYQEAKVYLFNNATGASVTAERLNVVHE
SEQ ID NO:20  EAFSMRVLVDHSIVQGFAMGGRTTMTSRVYPMEAYQEAKVYLFNNATGASVMAERLNVVHE
                                         600

*****
SEQ ID NO:21  MDSAHNQLSNEDDGMYLHQVLESRH
SEQ ID NO: 8  MDSAHNQLSNMDDYSYVQ-----
SEQ ID NO:10  MDSAHNQLSNMDDHSYVQ-----
SEQ ID NO:12  MDSAHNQLSNMDDYSYVQ-----
SEQ ID NO:20  MDSAHNQLSNMDDHSYVQ-----
                                         625

*****
                                         601
```

FIG. 2C

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*****
SEQ ID NO:18 MMASSTTTTPLLILHDDPENLPELTGSPTRRLSLAKVLGILSVLVIGALVALINNQTYESP-----
SEQ ID NO:14 MMASSTTTTPLLILHDDPENLPELTGFTGVRRLPSIAKALCVTLVSVMVICGLVAVISNQTQVPQVANSHQG
SEQ ID NO:16 MMASSTTTTPLLILHDDPENLPELTGSPTRRLSLAKVLGILSVLVITCALVALINNQTYEPP-----
1
70

*****
SEQ ID NO:18 SATTFVTQLPNIDLKRVPGKLDSSAEVEWQRSTYHFQPDKNFISDPDGPYHMGWYHLFYQYNPQSAIWG
SEQ ID NO:14 AATFTTQLPKIDMKRVPGELDSGADVQWQRSAYHFQPDKNYISDPDGPYHMGWYHLFYQYNPESAIWG
SEQ ID NO:16 AATTFATQLPNIDLKRVPGKLDSSAEVEWQRSAYHFQPDKNFISDPDGPYHMGWYHLFYQYNPESAIWG
61
140

*****
SEQ ID NO:18 NITWGHSVSKDMINWFHLPFAMVPDHWYDIEGVTGSAATVLPNGQIIMLYSGNAYDLSQVQCLAYAVNSS
SEQ ID NO:14 NITWGHSVSKDMINWFHLPFAMVPDHWYDIEGVTGSAATVLPNGEIIMLYTGNAYDLSQVQCLAYAVNSS
SEQ ID NO:16 NITWGHSVSKDMINWFHLPFAMVPDHWYDIEGVTGSAATVLPNGQIIMLYTGNAYDLSQVQCLAYAVNSS
141
210

*****
SEQ ID NO:18 DPLLEWKKYEGNPVLLPPPGVGKDFRDPSTLWSGPDGEYRMVMGSKHNETIGCALIYHTTNFTHFELK
SEQ ID NO:14 DPLLEWKKYEGNPVLLPPPGVGKDFRDPSTLWSGPDGEYRMVMGSKHNETIGCALIYHTTNFTHFELN
SEQ ID NO:16 DPLLEWKKYEGNPVLPFPFPGVGKDFRDPSTLWSGPDGEYRMVMGSKHNETIGCALIYHTTNFTHFELK
211
280

*****
SEQ ID NO:18 EEVLHAVPHTGMWECVDLYPVSTVHTNGLDMVDNGPNVKYVLKQSGDEDRHDWYAIGSYDI VNDKWYPDD
SEQ ID NO:14 EEVLHAVPHTGMWECVDLYPVSTVHTNGLDMVDNGPNVKYVLKQSGDEDRHDWYAIGSYDVNDKWYPDD
SEQ ID NO:16 EEVLHAVPHTGMWECVDLYPVSTVHTNGLDMVDNGPNVKYVLKQSGDEDRHDWYAIGSYDVNDKWYPDD
281
350
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FIG. 3A

3  
6  
1  
1